REMARKS

Reconsideration of this application is respectfully requested. Claims 12-25, 27, 29 and 31-40 are pending. Claims 12-35, 27, 29 and 31-38 are withdrawn from consideration. Claims 39 and 40 have been amended to more accurately reflect the claimed subject matter. Support for these amendments can be found on page 9, line 21 through page 10, line 11 of the specification. No new matter has been added by this amendment. Claims 39 and 40 are currently pending.

Rejections under 35 U.S.C. § 103(a) for obviousness

Claims 39 and 40 have been rejected as being obvious over Meijer *et al.* U.S. Patent 6,352,825 (Meijer '825), in view of Stewart *et al.* Journal of Virology, 1996, vol. 70, page 3127 (Stewart *et al.*), Buck *et al.* BioTechniques, 1999, vol. 27, page 528 (Buck *et al.*), Day *et al.* Biochem. J., 1990, vol. 267, page 119 (Day *et al.*) and Lukhtanov *et al.* U.S. Patent 6,339,147 (Lukhtanov '147). This ground for rejection is respectfully traversed.

The methods called for by claims 39 and 40 are *different* and *non-obvious* over the method disclosed by Meijer '825

The Examiner further asserts that one of ordinary skill in the art would have been motivated to use the HPV type-specific oligonucleotide probes on a chip for the diagnosis of HPV because Meijer '825 discloses that the probes are specific for the detection of HPV.

It is respectfully submitted that amended claims 39 and 40 call for the detection of the specific genotype of HPV infection, not merely the detection of HPV infection. In order to function as an HPV sub-type specific detection method, the oligonucleotide sequences called for by the present claims must be capable of hybridization to labeled DNA amplified from a clinical sample, wherein detection of the label indicates the presence of the specific genotype of the HPV DNA in the sample (*See* claims 39 and 40). Each of the nucleic acid sequence probes defined by SEQ ID NOS: 1-19 correspond to a different HPV sub-type (*See* page 9, line 30 through page 10, line 11 of the specification). Therefore, in order for a nucleic acid sequence probe to indicate the sub-type specific presence of HPV infection, the probe must preferentially hybridize with the probes that

represent only those HPV genotypes present in the clinical sample. The probe must further provide a signal strong enough to be detected over the other eighteen HPV sub-type specific probes that are also present on the DNA chip (*i.e.* those of SEQ ID NOS: 1-19 that are not present in the clinical sample).

There is no teaching or suggestion in Meijer '825, Stewart *et al.* or Buck *et al.* directing one of ordinary skill in the art to select the 30 nucleotide segment of the HPV-59 DNA sequence corresponding to SEQ ID NO: 12 from the 455 nucleotide sequence disclosed by Stewart *et al.* in order to achieve selective hybridization of HPV-59 DNA over the HPV sub-types defined by SEQ ID NOS: 1-11 and 13-19. In addition, Meijer '825 teaches a different HPV-59 sub-type specific probe (*See* SEQ ID No: 49, Table 2, column 20, line 50 in Meijer '825) teaching away from the probe defined by SEQ ID NO: 12.

Neither Day *et al.* or Lukhtanov '147 remedy the deficiency of Meijer '825 or Stewart *et al.*

The Examiner also states that one of ordinary skill in the art would have been motivated to modify the method of Meijer '825 by using a biotinylated primer for detecting HPV as taught by Day *et al.*, and a Schiff base-type covalent linkage to attach the oligonucleotide to the solid support as taught by Lukhtanov '147, in order to make the DNA chip with SEQ ID NOS: 1-19 for the diagnosis of HPV. This position is not well founded.

Neither Day *et al.* or Lukhtanov '147 provide a teaching or suggestion that remedies the deficiency of either Meijer '825 or Stewart *et al.* Specifically, neither Day *et al.* nor Lukhtanov '147 teach or suggest a method for the genotype-specific detection of HPV sub-types as called for by the present claims. In addition, neither Day *et al.* or Lukhtanov '147 teach or suggest a method of selecting an HPV-59 sub-type specific nucleic acid sequence as defined by SEQ ID NO: 12 from the HPV-59 nucleic acid sequence disclosed by Stewart *et al.*

In summary, the prior art of record, either alone or in combination, does not render obvious the HPV nucleic acid sequence probe as defined by SEQ ID NO: 12, or the method called

for by claims 39 and 40 of the present invention. In view of the foregoing, the Examiner is respectfully requested to withdraw the rejection of claims 39 and 40.

In view of the preceding comments and amendments, the pending claims are believed to be in condition for allowance and such action is earnestly solicited.

Dated: October 29, 2007

Respectfully submitted,

By _____
S. Peter Ludwig
Registration No.: 25,351
DARBY & DARBY P.C.
P.O. Box 770
Church Street Station
New York, New York 10008-0770
(212) 527-7700
(212) 527-7701 (Fax)
Attorneys/Agents For Applicant